

Biological Survey of a Prairie Landscape in Montana's Glaciated Plains

Final Report

Prepared for:

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Executive Summary

Throughout much of the Great Plains, grasslands have been converted to agricultural production and as a result, tall-grass prairie has been reduced to mere fragments. While more intact, the loss of mid- and short-grass prairie has led to a significant reduction of prairie habitat important for grassland obligate species. During the last few decades, grassland nesting birds have shown consistently steeper population declines over a wider geographic area than any other group of North American bird species (Knopf 1994), and this alarming trend has been linked to loss of grassland habitat. However, in the Bitter Creek – Frenchman Creek portion of Montana's Northwestern Glaciated Plains Section, large intact prairie communities can still be found across a diverse landscape. This prairie landscape is the largest remaining intact grassland north of the Highline in Montana and even more significantly, stands out as one of the most extensive naturally functioning glaciated plains grassland in North America. This prairie landscape, a remnant of what once existed more widely in Montana, has important conservation value for grassland-obligate species that are elsewhere threatened by habitat loss.

In 1999 and 2000, the Montana Natural Heritage Program, in cooperation with the Bureau of Land Management, conducted a biological inventory and assessment of the Bitter Creek – Frenchman Creek area. The primary objective was to document the distribution and biological significance of this native prairie landscape's vegetation communities and to assess the status of plant and animal species of concern and other grassland obligate species that occur there.

The variable topography and vegetation in the Bitter Creek – Frenchman Creek area support a diverse native vertebrate fauna typical of the northern Great Plains. A complete suite of grassland-obligate birds is still present, including Sprague's Pipit and Baird's Sparrow – both Montana Species of Concern. These and other bird species are present because the grasslands in this region provide a mosaic of structure (in both density and height) and food resources where they can settle and nest successfully. This landscape is also important for other vertebrate species of conservation concern, including a

limited number of Black-tailed Prairie Dog colonies that provide breeding sites for Burrowing Owls. Swift Fox now reoccupies some portions of the landscape following releases during the last decade in Canada. Great Plains Toad and Northern Leopard Frog, in decline elsewhere, still occupy some wetlands and permanent streams. Additional surveys will likely reveal the presence of other vertebrate species, especially amphibians, reptiles, and small mammals, of conservation concern in Montana.

Some obligate grassland birds are sensitive to habitat conversion on landscape scales and favor larger grassland patches. Their larger numbers in the Bitter Creek area, relative to other prairie regions in Montana, reflect this preference. Thus, the extensive and contiguous native prairie rangelands of the Bitter Creek – Frenchman Creek study area are important for maintaining diverse communities and large viable populations of native grassland-dependent birds and other animals.

Within the greater Bitter Creek – Frenchman Creek area we identified seven landscape sites, each with a distinctive suite of characteristics, that stand out as exceptional examples of glaciated plains. The extent of the intact prairie and the quality of these landscapes, qualify this part of Montana as an outstanding Great Plains mid-grass prairie landscape. One of the most outstanding areas, the Dry Fork Creek landscape, harbors an extensive, intact tract of northern porcupine grass – thickspike wheatgrass, a rare mid-grass prairie association. This is one of the best – if not the best – stands of its type documented in all of the US Great Plains, making Dry Fork Creek an area of national significance. This important grassland dominates a large block of school trust lands managed by the Montana Department of Natural Resource Conservation and leased for grazing. The state and private lessee have maintained this notable grassland through good stewardship practices. Livestock grazing is highly compatible with natural ecological processes that maintain these grasslands, whereas plowing the grassland for agricultural production would result in a permanent loss of this important grassland.

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